

A HYGIENE AND SANITATION ASSESSMENT OF WARMINDO FOOD ESTABLISHMENTS IN THE BANYURADEN AREA

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Article Info

Article history:

Received June 12, 2024

Revised June 22, 2024

Accepted January 01, 2025

Keywords:

Higine sanitation

Restaurant

Trader food

Sanitation

Warmindo

ABSTRACT

A Hygiene And Sanitation Assessment Of Warmindo Food Establishments In The Banyuraden Area. Food is one of the factors that can affect human health. Food that is suitable for consumption is food that is of good quality, does not contain poison and is still fresh. Therefore, existing restaurants must implement sanitary hygiene in accordance with Permenkes No. 2 of 2023 concerning Implementation Regulations of Government Regulation No. 66 of 2014 concerning Environmental Health. In Warmindo restaurants in the Banyuraden area, there are still restaurants with incomplete facilities and unhygienic behavior of food handlers such as smoking while processing food and taking ice by hand, which can adversely affect food or even cause food poisoning.

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INTRODUCTION

Safe food is defined as food that does not undergo changes in color, taste, or odor, and thus does not pose harm to consumers or buyers [1]. According to the Health Law No. 17 of 2023, one of the efforts to improve public health status is by maintaining the quality of food and beverages to reduce the risk of poisoning [2]. In this context, the implementation of food hygiene and sanitation is a key strategy in protecting the public from exposure to contaminated food products.

Hygiene and sanitation refer to efforts aimed at reducing the risk of food poisoning due to contamination that may originate from food ingredients, eating utensils, or food handlers [3]. Therefore, every food establishment is required to apply hygiene and sanitation principles in accordance with the Ministry of Health Regulation No. 2 of 2023. Food processing establishments with poor sanitation standards may pose health hazards, including food poisoning incidents. Data from the Indonesian National Agency of Drug and Food Control (BPOM) in 2014 indicated 43 cases of food poisoning, 15 of which originated from snacks, resulting in 468 victims and one fatality. One major incident from a catering service caused food poisoning in 748 individuals [4].

In the Special Region of Yogyakarta, the Health Office reported that existing Food Processing Establishments (FPEs) still face various challenges, such as inadequate selling space, the use of unsafe food equipment, and low hygiene practices among food handlers [5]. As a result, food poisoning has become one of the most frequently reported outbreaks in the past four years. In 2020 alone, 22 food poisoning cases were recorded in the region [6].

Preliminary observations at several Warmindo food outlets in the Banyuraden area revealed practices that do not comply with hygiene and sanitation principles. These include food handlers not washing hands before or after serving customers, smoking while working,

scooping ice directly with bare hands without utensils, inadequate sanitation facilities, and uncovered or unsorted waste bins. These conditions pose significant health risks to consumers, including the potential for foodborne illnesses and poisoning.

This study aims to evaluate the hygiene and sanitation conditions of Warmino food establishments in the Banyuraden area based on four main aspects: the structure and environment, sanitation facilities, food processing equipment, and the personal hygiene of food handlers.

MATERIALS AND RESEARCH METHODS

This research is an observational survey aiming to evaluate the hygiene and sanitation conditions of Warmino food outlets in the Banyuraden area. The data collected are primary data, obtained through direct observation and interviews with food handlers using a standardized hygiene and sanitation checklist for food establishments. Instruments used in this study included a standardized checklist, a lux meter, a camera, stationery, and other supporting tools.

The population in this study consisted of all Warmino food outlets in the Banyuraden area, totaling 12 establishments. A total sampling technique was employed, whereby the entire population was included as the research sample.

Data were analyzed descriptively by presenting frequency and percentage distributions. The analysis focused on four main aspects of hygiene and sanitation: cleanliness of buildings and the surrounding environment, completeness of sanitation facilities, condition of food processing equipment, and the personal hygiene behavior of food handlers.

RESEARCH RESULTS AND DISCUSSION

This study evaluated the hygiene and sanitation conditions of Warmino food establishments in the Banyuraden area using five indicators: building condition, sanitation facilities, equipment, personal hygiene, and overall hygiene and sanitation assessment. The evaluation was conducted across 12 food establishments using an observation sheet based on the standards set in Ministry of Health Regulation No. 2 of 2023.

Table 1. Frequency Distribution of Building Conditions at Warmino Food Establishments in the Banyuraden Area

No.	Building Conditions	Frequency	Percentage (%)
1.	(MS)	9	75
2.	(TMS)	3	25
	Total	12	100

Note : MS: Meets Requirements; TMS: Does Not Meet Requirements

The majority of food establishments had buildings that met the required standards (75%). However, 3 out of 12 establishments (25%) did not meet the criteria due to several indicators, such as damaged flooring, dirty walls, and uneven or broken ceilings. According to the Ministry of Health Regulation No. 2 of 2023, the buildings of food processing establishments must be clean, enclosed, and well-maintained. In addition, two establishments were found to have lighting levels below 200 lux, whether from natural or artificial sources, which may result in a damp environment and promote the growth of pathogenic microorganisms [7]. Although all establishments were equipped with ventilation, several did not meet the minimum number of openings required, resulting in suboptimal air circulation.

Table 2. Frequency Distribution of Sanitation Facilities
 at Warmindo Food Establishments in the Banyuraden Area

No.	Fasilitas Sanitasi	Frequency	Percentage (%)
1.	MS	0	0
2.	TMS	12	100
	Jumlah	12	100

Note : MS: Meets Requirements; TMS: Does Not Meet Requirements

All food establishments (100%) were found to not meet the requirements for sanitation facilities. This included toilets without trash bins or hand dryers, uncovered or unsorted garbage bins, and the absence of handwashing stations (sinks) at nearly all sites. In addition, in 10 establishments, the dishwashing area was combined with raw food preparation, which violates the principle of separation between clean and dirty zones. The presence of vectors such as flies was observed in two establishments, indicating poor pest control practices. These findings reflect a widespread failure to comply with environmental sanitation principles as stipulated in the applicable regulations [8].

Table 3. Frequency Distribution of Equipment Sanitation at
 Warmindo Food Establishments in the Banyuraden Area

No.	Equipment Sanitation	Frequency	Percentage (%)
1.	MS	3	25
2.	TMS	9	75
	Jumlah	12	100

Note : MS: Meets Requirements; TMS: Does Not Meet Requirements

A total of 75% of the food establishments did not meet the standard requirements for equipment cleanliness. Washed utensils were not stored in a dry and covered condition, making them vulnerable to cross-contamination from air or vectors. The Ministry of Health regulations require that equipment be stored on enclosed shelves and be free from any risk of contamination. Visibly dirty eating utensils may serve as a medium for pathogenic microorganisms such as *Escherichia coli* or *Salmonella*, which have the potential to cause foodborne illnesses [9–15].

Table 4. Frequency Distribution of Personal Hygiene Practices at
 Warmindo Food Establishments in the Banyuraden Area, 2023

No.	Personal Hygiene of Food Handlers	Frequency	Percentage (%)
1.	MS	5	42
2.	TMS	7	58
	Jumlah	12	100

Note : MS: Meets Requirements; TMS: Does Not Meet Requirements

Most food handlers at Warmindo food establishments did not wear complete protective gear, such as aprons, masks, and head coverings. A total of seven food handlers were observed smoking, coughing, or chewing food while in the food preparation area—actions that significantly increase the risk of food contamination. Furthermore, only a small proportion of handlers were seen washing their hands with soap before and after handling food. One food handler was noted to have long and unclean fingernails.

According to food safety standards, personal hygiene is considered the first line of defense in preventing foodborne illnesses [16–21]. The presence of poor hygiene behaviors among food handlers poses serious health risks to consumers and reflects the need for stricter supervision and education regarding hygiene protocols in food service environments.

Table 5. Frequency Distribution of Overall Hygiene and Sanitation at
 Warmindo Food Establishments in the Banyuraden Area, 2023

No.	Food Establishment Hygiene and Sanitation	Frequency	Percentage (%)
1.	MS	0	0
2.	TMS	12	100
	Jumlah	12	100

Note : MS: Meets Requirements; TMS: Does Not Meet Requirements

The overall assessment of hygiene and sanitation conditions at the Warmindo food establishments indicated that all locations (100%) failed to meet the required standards. This cumulative result stems from various deficiencies across building structure, sanitation facilities, equipment hygiene, and personal hygiene aspects. If left unaddressed, such conditions pose a significant risk for foodborne illnesses within the community.

The study findings highlight that the weakest components were sanitation facilities and personal hygiene. Facilities such as waste bins and sinks were either unavailable or non-functional. Meanwhile, food handlers demonstrated a lack of understanding regarding personal cleanliness. Compared to the building aspect, which showed a relatively higher compliance rate (75% meeting standards), hygiene-supporting infrastructure tended to be neglected. This indicates that improvements must begin with basic education and the provision of proper sanitation infrastructure.

These findings are consistent with previous studies, which reported that many small-scale food businesses fail to meet hygiene standards due to limited knowledge, supervision, and resources [22-27]. Therefore, government intervention through training, routine inspections, and community empowerment is critically needed to drive sustainable improvements.

CONCLUSIONS AND RECOMMENDATIONS

The findings of this study indicate that the overall hygiene and sanitation conditions of Warmindo food establishments in the Banyuraden area remain concerning. Among the five assessed aspects, only building conditions were generally compliant, whereas sanitation facilities, equipment sanitation, and personal hygiene showed high levels of non-compliance. All establishments were classified as not meeting overall hygiene and sanitation standards based on Ministry of Health Regulation No. 2 of 2023. This situation highlights the urgent need for improved hygiene and sanitation practices in Warmindo establishments to prevent public health risks related to unsafe food handling. It is recommended that food establishment owners take corrective actions to improve sanitation facilities, implement proper equipment hygiene practices, and enforce strict adherence to personal hygiene protocols among food handlers, in accordance with environmental health standards. Future researchers are encouraged to conduct laboratory testing of eating utensils or food ingredients to objectively assess microbial contamination levels, and to evaluate the effectiveness of educational or routine inspection interventions in improving compliance with hygiene and sanitation standards.

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